abcam

ab227640

Anti-CD10 antibody [SP67]

Anti-CD10 antibody [SP67] (ab227640) is a rabbit monoclonal antibody detecting CD10 in **Western Blot, Flow Cytometry, IHC-P**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP67
Purification technique	Affinity purification Protein A
Concentration	0.135 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200

Notes	-

Predicted

Species	Mouse, Rat, Chicken, Cow
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/25
Notes	Primary antibody incubation for 1 hour at room temperature.

Predicted

Species	Mouse, Rat, Chicken, Cow
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Perform heat mediated antigen retrieval with 1mM EDTA buffer pH 8.0 before commencing with IHC staining protocol. Primary antibody incubation for 30 minutes at room temperature.

Predicted

Species	Mouse, Rat, Chicken, Cow
Dilution info	-
Notes	-

Target data

See full target information MME

Function	Thermolysin-like specificity, but is almost confined on acting on polypeptides of up to 30 amino acids (PubMed:15283675, PubMed:6208535, PubMed:6349683, PubMed:8168535). Biologically important in the destruction of opioid peptides such as Met- and Leu-enkephalins by cleavage of a Gly-Phe bond (PubMed:17101991, PubMed:6349683). Catalyzes cleavage of bradykinin, substance P and neurotensin peptides (PubMed:6208535). Able to cleave angiotensin-1, angiotensin-2 and angiotensin 1-9 (PubMed:15283675, PubMed:6349683). Involved in the degradation of atrial natriuretic factor (ANF) and brain natriuretic factor (BNP(1-32)) (PubMed:16254193, PubMed:2531377, PubMed:2972276). Displays UV-inducible elastase activity toward skin preelastic and elastic fibers (PubMed:20876573).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-CD10 antibody [SP67] (ab227640) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P) in Human samples.

What is the molecular weight of CD10?
Anti-CD10 [SP67] (ab227640) specifically detects a band for CD10 (UniProt: P08473) at a molecular weight of 86kDa.

Collaboration
Anti-CD10 [SP67] (ab227640) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

Other related products

We have a range of other formats of antibody clone [SP67] also available for your convenience: ab227640, Carrier free - ab236235

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD10 also known as neprilysin or neutral endopeptidase is a zinc-dependent metalloprotease enzyme with a mass of approximately 100 kDa. This enzyme is expressed across a variety of tissues including kidney lung and neutrophils. Its expression is also notable in the lymphoid tissues. CD10 functions by cleaving peptides at the N-terminal of hydrophobic residues. Common names used in literature for CD10 include CALLA (common acute lymphoblastic leukemia antigen) and membrane metalloendopeptidase.
Biological function summary	CD10 regulates peptide signaling by inactivating various bioactive peptides such as enkephalins atrial natriuretic peptide and bradykinin. It does not function as part of a complex but rather as a standalone entity. The ability of CD10 to hydrolyze peptides influences signal transmission across cellular membranes impacting cellular communication and signal termination within different systems.
Pathways	Neprilysin plays an essential role in hydrolyzing signaling peptides in several critical pathways. It is especially significant in the natriuretic peptide system and the renin-angiotensin system maintaining blood pressure and fluid balance. Within these pathways CD10 modifies peptides working alongside proteins like atrial natriuretic peptide synthase and angiotensin-converting enzyme ensuring systemic homeostasis and cardiovascular health.
Associated diseases and disorders	CD10 shows a significant connection to certain types of cancer and Alzheimer's disease. In oncology altered expression of CD10 serves as a CD10 marker in cancers such as lymphomas and some leukemia forms which helps in diagnosis and treatment decisions. Additionally CD10's involvement in neuropeptide degradation links it to Amyloid beta peptide accumulation in Alzheimer's where its dysregulation may promote disease progression. Related proteins are amyloid precursor protein in Alzheimer's and CD19 often co-expressed with CD10 in some lymphomas highlighting its role in both diagnostic and therapeutic contexts.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

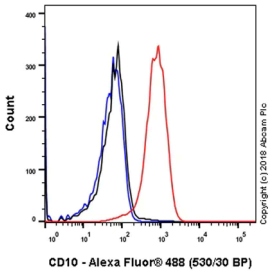
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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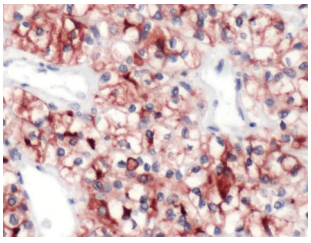
5 product images



Flow Cytometry - Anti-CD10 antibody [SP67] (ab227640)

CD10 Flow Cytometry staining using rabbit Anti-CD10 antibody

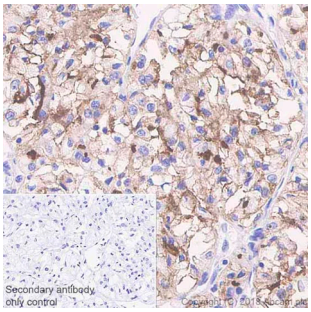
Flow Cytometry analysis of Raji (Human Burkitt's lymphoma B lymphocyte) cells labeling CD10 with purified ab227640 at 1:200 dilution (1.025 µg/ml) Red. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1:2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / Blue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP67] (ab227640)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

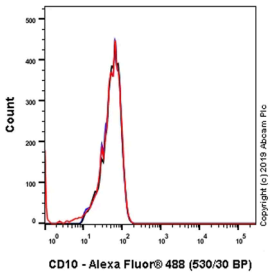
Formalin-fixed, paraffin-embedded human renal cell carcinoma tissue stained for CD10 using ab227640 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD10 antibody [SP67] (ab227640)

CD10 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD10 antibody

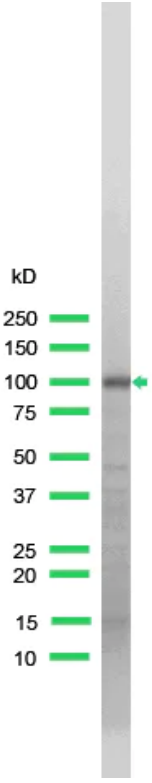
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human renal cell carcinoma tissue sections labeling CD10 with ab227640 at 1/100 dilution (1.89 µg/ml). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Hematoxylin was used as a counterstain. Positive staining on human renal cell carcinoma, performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab227640 for 30 mins at room temperature.



Flow Cytometry - Anti-CD10 antibody [SP67] (ab227640)

CD10 Flow Cytometry staining using rabbit Anti-CD10 antibody

Flow Cytometry analysis of Jurkat(Human T cell leukemia T lymphocyte)_negative control cells labeling CD10 with purified ab227640 at 1:200 dilution (1.025 µg/ml) Red. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1:2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / Blue.



Western blot - Anti-CD10 antibody [SP67] (ab227640)

All lanes:
Western blot - Anti-CD10 antibody [SP67] (ab227640) at 1/25 dilution

All lanes:
Ramos (human Burkitt's lymphoma cell line) cell lysate

Predicted band size: 85 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.